

### **Brownies**

## We have a challenge for you!

# Fling Flyer Challenge



Be an aeronautical engineer

- 1. Learn about forces that affect flight
- 2. Design and build a Fling Flyer
- 3. Test your Fling Flyer
- 4. Analyze your results
- 5. Improve your design
- 6. Share @gsnnj

Congratulations, you're in training to become an aeronautical engineer! Learn, design, build, and test to create your fling flyer. Share your flying machine with us at gsnnj.

#### **Supplies:**

- Pencil
- Paper
- Scissors
- Tape
- Rubber band
- Paper clip
- BBQ skewers, straws, or a straight stick

Use your resources wisely, be creative and hold a Fling Flyer competition with your family.

Whose Fling Flyer will go the furthest distance?







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## Fling Flyer Challenge Examples

There are many forces at work to get airplanes in the air. Learn about a few below:

#### **Background Definitions:**

Data is information that engineers receive, collect, or observe during testing of their designs.

Drag is the force (air molecules) that acts against something in flight.

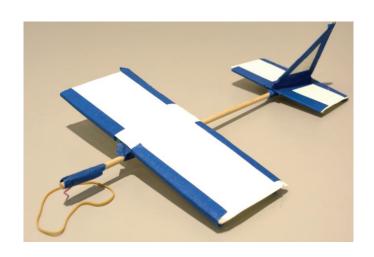
Force is the strength or energy that creates movement. Push and pull are examples of force.

Friction is a force that slows moving objects.

Gravity is a force that pulls objects toward each other and towards the earth.

Lift is a force that pushes back up on the wings during flight.

Unbalanced forces exist when forces are unequal on an object. When the forces are unbalanced, it moves in the direction of the greater force.



**How will your Fling Flyer do?** 

How would you improve upon it?

Make changes and send it flying again to see if it improved or not.



To watch an example a Brownie Troop's Fling Flyer Competition, please see the following: https://www.youtube.com/watch?v=4N0TA3yZivw